In the Claims:

1-39. (Canceled)

40. (Currently Amended) A method of making an attenuating and phase-shifting mask for use in semiconductor manufacturing, the method comprising:

obtaining a prefabricated mask blank designed for use with light of a first wavelength λ_o, the prefabricated mask blank comprising:

a transparent layer, and

an attenuating and phase-shifting layer (attPS layer) formed on the transparent layer, the attPS layer having an initial attPS-layer thickness D_o, and

patterning and adapting the prefabricated mask blank to be an adapted-patterned mask for use with light of a second wavelength λ_t, wherein the second wavelength is smaller than the first wavelength, the patterning and adapting comprising:

reducing the initial attPS-layer thickness $\underline{D_o}$ of the attPS layer to a first attPS-layer thickness D_1 at dark areas, and

patterning and etching the attPS layer to form [[the]] clear areas, wherein a portion of the attPS layer ~~remains with~~ results in a second attPS-layer thickness D_3 at the clear areas, the second attPS-layer thickness D_3 being smaller than the first attPS-layer thickness D_1, wherein the transparent layer has a same thickness at the clear areas and the dark areas.

41. (Canceled)

42. (Previously Presented) The method of claim 40, wherein the patterning and adapting further comprises:

before the reducing of the initial attPS-layer thickness D_o of the attPS layer and before the patterning and etching of the attPS layer to form the clear areas, determining the first attPS-layer thickness D_1 and the second attPS-layer thicknesses D_3 for providing a desired combination of transmittance and phase shift at second wavelength λ_t by using the equations:

$$\Phi_t = [2(n_t-1)(D_1-D_3) / \lambda_t]180°,$$

$$T_1 = A_t \exp(-4\pi k_t D_1 / \lambda_t),$$

$$T_2 = A_t \exp(-4\pi k_t D_3 / \lambda_t),$$

$$T_t = T_1/T_2 = \exp[-4\pi k_t (D_1-D_3) / \lambda_t], \text{ where}$$

n_t is refractive index of the attPS layer at λ_t,

k_t is extinction coefficient of the attPS layer at λ_t,

A_t is a constant for the attPS layer at λ_t,

T_1 is the transmittance through the dark areas based on using D_1 and λ_t,

T_2 is the transmittance through the clear areas based on using D_3 and λ_t,

and

Φ_t is the phase shift of light through the dark areas relative to light through the clear areas.

43. (Previously Presented) The method of claim 40, wherein the reducing of the initial attPS-layer thickness D_o of the attPS layer to the first attPS-layer thickness D_1 is performed prior to the patterning and etching of the attPS layer to form the clear areas.

44. (Currently Amended) The method of claim [[40]] <u>42</u>, wherein the desired phase shift is about 180 degrees or greater.

45. (Currently Amended) The method of claim [[40]] 42, wherein the ~~dark area~~ transmittance of the dark area is between about 2% and about 20%.

46. (Currently Amended) The method of claim [[40]] 42, wherein the ~~dark area~~ transmittance of the dark area is between about 5% and about 15%.

47. (Currently Amended) The method of claim [[40]] 42, wherein the ~~dark area~~ transmittance of the dark area is about 6% or less.

48. (Previously Presented) The method of claim 40, wherein the reducing of the initial attPS-layer thickness D_o of the attPS layer to the first attPS-layer thickness D_1 is by etching.

49. (Previously Presented) The method of claim 48, wherein the reducing of the initial attPS-layer thickness D_o of the attPS layer to the first attPS-layer thickness D_1 is by reactive ion etching.

50. (Previously Presented) The method of claim 40, wherein the etching of the attPS layer to form the clear areas is by reactive ion etching.

51-52. (Canceled)

53. (Currently Amended) A method of making an attenuating and phase-shifting mask for use in semiconductor manufacturing, the method comprising:

obtaining a prefabricated mask blank designed for use with light of a first wavelength λ_o, the prefabricated mask blank comprising:

a transparent layer, and

an attenuating and phase-shifting layer (attPS layer) formed on the transparent layer, the attPS layer having an initial attPS-layer thickness D_o; and

patterning and adapting the prefabricated mask blank to be an adapted-patterned mask for use with light of a second wavelength λ_t, wherein the second wavelength is smaller than the first wavelength, the patterning and adapting comprising:

reducing the initial attPS-layer thickness D_o of the attPS layer to a first attPS-layer thickness D_1 at [[the]] dark areas in the prefabricated mask blank, and

patterning and etching the attPS layer to form [[the]] clear areas, wherein a portion of the attPS layer ~~remains with~~ results in a second attPS-layer thickness D_3 at the clear areas, the second attPS-layer thickness D_3 being smaller than the first attPS-layer thickness D_1, wherein the transparent layer has a same thickness at the clear areas and the dark areas, and

before the reducing of the initial attPS-layer thickness D_o of the attPS layer and before the patterning and etching of the attPS layer to form the clear areas, determining the first attPS-layer thickness D_1 and the second attPS-layer ~~thicknesses~~ thickness D_3 for providing a desired combination of transmittance and phase shift at second wavelength λ_t by using the equations:

$$\Phi_t = [2(n_t-1)(D_1-D_3) / \lambda_t]180°,$$

$$T_1 = A_t \exp(-4\pi\, k_t\, D_1 / \lambda_t),$$

$$T_2 = A_t \exp(-4\pi\, k_t\, D_3 / \lambda_t), \text{ and}$$

$$T_t = T_1/T_2 = \exp[-4\pi\, k_t\, (D_1-D_3) / \lambda_t], \text{ where}$$

n_t is refractive index of the attPS layer at λ_t,

k_t is extinction coefficient of the attPS layer at λ_t,

A_t is a constant for the attPS layer at λ_t,

D_1 is the first attPS-layer thickness,

D_3 is the second attPS-layer thickness,

T_1 is the transmittance through the dark areas based on using D_1 and λ_t,

T_2 is the transmittance through the clear areas based on using D_3 and λ_t, and

Φ_t is the phase shift.

54–67. (Canceled)